

Miniaturized Magnetometers

Completed Technology Project (2017 - 2019)



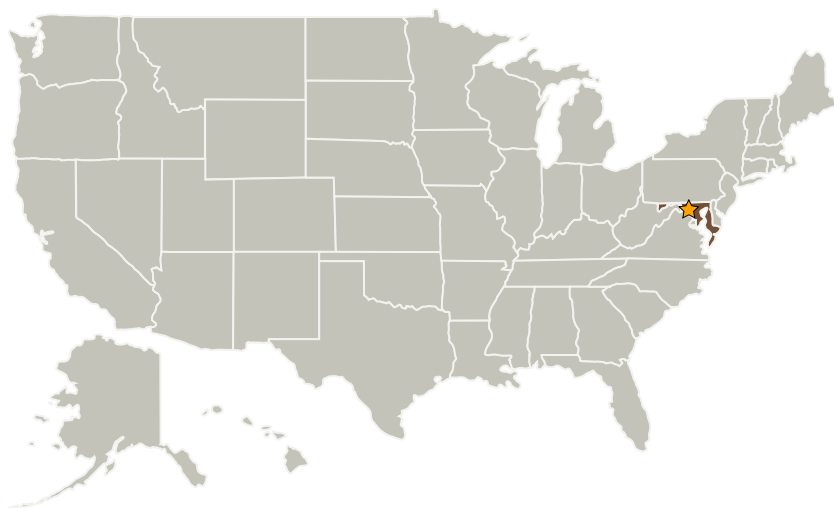
Project Introduction

We will develop miniaturized magnetometers for use on very resource-constrained missions. Specifically we will develop **two types** of magnetometers that will require significantly less resources than our current fluxgate magnetometers (e.g. MAVEN, Juno, and Solar Probe Plus).

Anticipated Benefits

Numerous upcoming mission opportunities have science goals that are addressable by magnetometers but are also resource-constrained. Examples include planetary CubeSats, and heliospheric CubeSats.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

Maryland



A mini fluxgate sensor.

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Images



Mini-Mag

A mini fluxgate sensor.

(<https://techport.nasa.gov/image/34537>)

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Managers:

Brook Lakew
Michael J Amato

Principal Investigator:

Jared R Espley

Co-Investigators:

Dave Sheppard
James L Odom

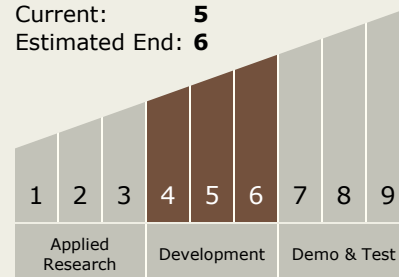
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Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **6**



Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.3 In-Situ Instruments and Sensors
 - └ TX08.3.1 Field and Particle Detectors

Target Destinations

The Moon, Mars, Others Inside the Solar System